



County of Yuba

Storm Water Management Plan



August 3, 2004

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YUBA COUNTY STORM WATER MANAGEMENT PLAN

INTRODUCTION

The Yuba County Storm Water Management Plan (SWMP) is being initiated by Yuba County and the City of Marysville to fulfill requirements of the National Pollutant Discharge Elimination System (NPDES) Phase II requirements for Small Municipal Separate Storm Sewer Systems (Small MS4s). The Yuba County SWMP provides a plan for the affected agencies within the County to follow Best Management Practices (BMPs), measurable goals, and timetables for the implementation of the Six Minimum Control Measures (Measures) required by the United States Environmental Protection Agency, and the State Water Resource Control Board under NPDES General Permit No. _____ .

The Six Measures are as follows:

1. **Public Education:** Educate the public in Yuba County about the importance of the SWMP and the importance of the public's role in the program.
2. **Public Participation:** Involve the public in the continual development and refinement of the SWMP, allow for input on the Measures, and encourage public participation in implementation of the measures.
3. **Illicit Discharge Detection and Elimination:** Pursue ordinances or take equivalent measures that prohibit illicit discharges and develop programs to detect illicit discharges.
4. **Construction Site Storm Water Runoff Control:** Develop measures to control the discharge of pollutants from construction sites greater than or equal to one acre in size within the County. The programs must include inspections of construction sites and enforcement actions against violators.
5. **Post Construction Storm Water Management:** Develop measures to require long term BMP's that protect water quality and control runoff flow, to be incorporated into development and significant redevelopment projects.
6. **Pollution Prevention/Good Housekeeping for Municipal Operations:** The County and other affected agencies within the County will examine their own activities and develop a program to prevent the discharge of pollutants from those activities. At a minimum, the program will educate staff on pollution prevention and minimize pollutant sources.

In implementing the Six Measures described above, the Yuba County SWMP is focused on reducing the discharge of pollutants to storm water to the Maximum Extent Practicable (MEP) and preparing a report annually on the progress of the SWMP implementation. The area covered by the Yuba County SWMP is the current urbanized areas within the County as depicted in the 2000 census and shown on Exhibit A.

The Yuba County SWMP is intended to be as dynamic as reasonably possible. Storm water management is constantly evolving as a result of new regulations, new knowledge from local, state, and federal studies and programs. Periodically, minor modifications that do not alter the requirements of the NPDES Permit will be made to this Plan, and updated pages will be created and made available. Major modifications to this Plan will be proposed in writing for approval by the Regional Water Quality Control Board.

MEASURE #1: PUBLIC EDUCATION

OBJECTIVE:

The objective of this measure is to educate the public within Yuba County about the importance of storm water quality and the importance of the public's role in this program to the widest extent possible with the most cost effective method of distribution.

STRATEGY:

To accomplish this objective, target audiences need to be established, such as school children, and key types of industry. Once audiences are identified, message points and motivators need to be created for each audience. Finally, the appropriate media needs to be selected for communicating these message points and motivators to ensure the widest, most cost effective distribution to each of the target audiences. Due to the constantly evolving nature of storm water quality it will be necessary to continually review and update the target audiences and methods of communication.

GOALS & TIMELINE:

MCM 1: PUBLIC EDUCATION		
BMP	MEASURABLE GOAL	IMPLEMENTATION SCHEDULE
Establish a Storm Water Quality Public Education Committee (SWQPEC) tasked with developing and implementing this measure and the Public Participation Measure. The committee shall be established within the first year of implementing the SWMP	Establish Committee	July 2004
Identify a list of target audiences within the first year of establishing the SWQPEC	Identify target audiences	January 2005
Update as needed	Review and update yearly	

Identify message points and motivators for each target audience within the first year of establishing the SWQPEC Update as needed	Identify message points	January 2005
Identify appropriate media sources to distribute the message points and motivators within the first year of establishing the SWQPEC Update as needed	Choose Media Sources Review and update yearly	January 2005
Identify funding sources to produce and distribute message points and motivators to the target audiences within the first year of establishing the SWQPEC Update annually	Identify Funding Sources Review and update yearly	January 2005 Ongoing
Educational brochures on storm water quality and BMP's for construction projects	Place at commercial development and Public works counters	January 2005
Establish storm water quality web page	Develop and advertise web page, track hits Update annually	May 2005

MEASURE #2: PUBLIC PARTICIPATION

OBJECTIVE:

The objective of this measure is to encourage the public within Yuba County to participate in the development and implementation of the Measures identified in the Yuba County SWMP.

STRATEGY:

To accomplish this objective, programs need to be identified and made available to the public that encourage public participation in the storm water quality process. The programs developed to encourage and involve the public will be integrated with the other Measures identified in this plan. The programs to encourage and involve the public will be developed by the Storm Water Quality Public Education Committee (SWQPEC).

When the SWQPEC develops the programs, the focus will be through two main avenues of public participation: public meetings and volunteer activities. There are numerous programs that can be developed under these avenues. For instance, public meetings could be held with citizen panels providing input on storm water management policies. The volunteer activities or programs that are possible could include storm drain stenciling, community clean-ups along waterways, citizen watch groups, or an "Adopt a Storm Drain" type of program.

GOALS & TIMELINE:

MCM 2: PUBLIC INVOLVEMENT / PARTICIPATION PROGRAM		
BMP	MEASURABLE GOAL	IMPLEMENTATION SCHEDULE
Establish a Storm Water Quality Public Education Committee SWQPEC tasked with developing and implementing this measure and the Public Education Measure	Establish Committee	July 2004
Have the SWQPEC host a public meeting and gather names of individuals interested in storm water	Hold meeting yearly	January 2005- January 2006
	Update list yearly	Yearly

Identify a list of possible volunteer activities and establish the SWQPEC public involvement/ participation program	Develop a list Update list yearly	January 2005- January 2006 Yearly
Implement at least one of the volunteer activities established by the SWQPEC program	Implement at least one volunteer activity each year starting June 2005	June 2005
Develop storm water quality citizen watch groups	Conduct storm water training sessions Training yearly	June 2005
Implement a Storm water complaint Hotline and/or internet form	Advertise hotline/internet form in local media Document reported incidents in log to be included with Annual Report Respond to complaints within 48 hours and utilize tiered enforcement if necessary to remedy the problem	March 2005 September of each permit year March 2006 Respond to all complaints
Storm drain labeling	Require developers to label storm drain inlets as a condition of grading/building permit Label all existing storm drain inlets Document labeling progress in log to be included with Annual Report	July 2004 25% the first year 25% the second year etc. till complete Starting March 2005 September of each year starting September 2005

MEASURE #3: ILLICIT DISCHARGE DETECTION and ELIMINATION

OBJECTIVE:

The objective of this measure is to determine the types and sources of illegal general public discharges entering the City/County storm drainage systems within the urban boundaries; and establish the legal, technical, and educational means to eliminate these discharges.

STRATEGY:

A program(s) will be established in order to identify and properly eliminate illicit discharges to the City/County storm drainage systems within the urban boundaries. This program(s) will include a storm sewer system map in the urban areas, showing the location of outfalls and the names and location of all waters that receive discharges from those outfalls. In addition, ordinances on non-storm water discharges, and appropriate enforcement procedures will be established. A plan on how to initiate identification of illicit discharges, determining the source and extent of the discharge, and how to correct identified illicit connections will also be developed.

Due to the varied potential sources of illicit discharges from an illegal plumbing or sewer connection on a residence or commercial site to a person intentionally dumping waste oil down a storm drain, a comprehensive approach to an illicit discharge program is needed. Public outreach through the SWQPEC regarding ways to detect and eliminate illicit discharges should be implemented. City/County departments and other affected agencies that have responsibilities over sewer and/or waste disposal, building construction, and hazardous materials will be included in developing the program.

GOALS & TIMELINE:

MCM 3: ILLICIT DISCHARGE DETECTION and ELIMINATION		
BMP	MEASURABLE GOAL	IMPLEMENTATION SCHEDULE
Complete a storm sewer system map for the urban areas within the City/County	Prepare MS4 map and annually update	July 2006 and update annually thereafter
	Use GPS to accurately locate information	January 2007
	Add watersheds for each discharge point	January 2007 and update annually thereafter

Form committee(s) consisting of City/County departments and other affected agencies that will be involved in illicit discharge detection and elimination	Have each department or agency select a representative to create committee Train all committee members involved	January 2005 95% of staff trained by January 2006 Committee to meet quarterly
Illicit discharge ordinance	Adopt ordinance to prohibit unauthorized non-storm water discharges. Adopt ordinance requiring parking lot owners to sweep weekly; enforce ordinance	July 2005 July 2005
Implement public hot line or web page for the reporting of illegal discharges	Develop and implement procedures to inspect sites identified by the hot line Complaints received will be responded to within 2 working days Promote the hot line with public education etc.	June 2005 Ongoing Ongoing
Develop and implement a plan to detect non-storm water discharges and illegal dumping Identify problem areas using citizen complaints, field screening, and SIC codes for suspect industries	Track detected contamination to its source Complete field screening of storm sewer lines from identified problem areas	January 2006 January 2007
Establish a system and procedures for enforcement of violations of illicit discharge. Use a tiered system. Establish a tracking system for inspections and violations of illicit discharges	Remove illicit discharge as soon as practical (five business days) Require cleanup and abatement or recover costs of the City/County to cleanup and abate discharge.	January 2006 January 2006

Advertise household hazardous waste management program with YSDI and other local jurisdictions	Advertise with local media quarterly	January 2006
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MEASURE # 4: CONSTRUCTION SITE STORM WATER RUNOFF CONTROL

OBJECTIVE:

The objective of this measure is to achieve reductions in pollution to construction storm water runoff within the Yuba County urbanized areas by requiring construction sites to control erosion and reduce discharges of sediment and other pollutants to the Maximum Extent Practicable (MEP).

STRATEGY:

Due to the nature of the work at construction sites there are numerous activities that have the potential to create storm water pollution. For example, site grading can expose soil to the erosive effects of rainfall and wind unless the disturbed areas are stabilized and/or re-vegetated before rains. In addition, litter, concrete, stucco, paint and other construction materials that are allowed to discharge from construction sites in runoff can impair and pollute storm water.

To accomplish the objective of reducing construction site pollution to storm water runoff for projects disturbing one acre or more, the County must initiate requirements for erosion and sediment control. Standard details, specifications and inspection techniques need to be implemented and/or updated to ensure reductions of pollutants to the MEP. In addition, steps need to be taken to help educate the construction community on how to comply with storm water pollution control requirements and their importance.

GOALS & TIMELINE:

MCM 4: CONSTRUCTION SITE STORM WATER RUNOFF CONTROL		
BMP	MEASURABLE GOAL	IMPLEMENTATION SCHEDULE
Update existing requirements for erosion control plans on construction projects to include projects that disturb one acre or more	Update procedures for site plan review Update annually	January 2005
Develop and implement "Improvement/Development Standards" that require Best Management Practices for erosion and sediment control as well as non-storm water wastes	Develop/adopt and implement Development Standards for storm water on construction sites	January 2005

Train plan checkers on revised municipal requirements	All plan checkers trained Yearly training for plan checkers	January 2005 Ongoing
Establish erosion control plan requirements for construction projects	Develop plan requirements	January 2005
Develop material to educate the construction community about construction site storm water runoff control	Develop fliers Implement a training program and conduct one class per year	January 2005 Annually (starting 2005)
Develop procedures for inspection and performance of construction site pollution control measures <ul style="list-style-type: none"> • Develop inspection procedures/checklists for inspectors • Establish a training program for County and City inspection staff • Establish a system and procedures for enforcement of violations. Use a tiered approach to enforcement 	Establish an interim inspection program Develop inspection program Train all County and City inspection staff Implement inspection program All construction sites will be inspected twice during the dry season. During the wet season high priority sites will be inspected once a week and all sites will be inspected monthly. These inspections include any County owned construction sites. Enforcement of violations will be based on a tiered system, with the first offences receiving a verbal warning, second offences receiving a written warning and further offences receiving and/or stop work notices or monetary fines.	October 2004 April 2005 50% by October 2004 75% by July 2005 100% by July 2006 July 2005 April 2005

<ul style="list-style-type: none"> Establish a tracking system for inspections and violations 	<p>County staff will inspect all construction sites greater than 1 acre for storm water compliance once a month, and high priority sites will be inspected once a week.</p> <p>High priority sites will be determined by the potential for the site to pollute if BMP's are not maintained, and by the history of compliance at each site</p>	<p>July 2005</p>
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MEASURE #5: POST CONSTRUCTION STORM WATER MANAGEMENT

OBJECTIVE:

The objective of this measure is to develop strategies and measures to control post-construction storm water runoff that include structural and/or non-structural BMPs.

STRATEGY:

Identify and help implement storm water source controls, site design measures and post-construction storm water pollutant and hydro modification controls. Periodically, evaluate post-construction storm water runoff controls for effectiveness and make improvements as necessary.

GOALS & TIMELINE:

MCM 5: POST CONSTRUCTION STORM WATER MANAGEMENT		
BMP	MEASURABLE GOAL	IMPLEMENTATION SCHEDULE
Require post-construction runoff controls that include structural and/or non-structural BMP's on all improvement plans		
<ul style="list-style-type: none"> Develop design review guidance for planning and public works departments 	Develop a substantial equivalent to the Design Standards from Attachment #4 and submit proposal to RWQCB for review	December 2005
<ul style="list-style-type: none"> Develop the technical criteria for selected control strategies including non-structural BMP's such as buffer strips, open space, growth restrictions etc. 	Amend public works Development Standards	April 2006
	Incorporate new Design Standards into conditions of approval on all new maps	April 2006
<ul style="list-style-type: none"> Train municipal staff on post-construction requirements and conditions of approval 	Train 95% of staff involved with approval and maintenance of post construction BMP's	April 2006
		Additional training on-going as needed

Develop, implement and enforce an ordinance to address post-construction runoff from new development and redevelopment projects	Develop ordinance Adopt ordinance and enforcement of violations to be based on a tiered system	January 2006 April 2006
<p>Ensure that all post-construction runoff controls that include structural and/or non-structural BMP's are implemented and maintained</p> <ul style="list-style-type: none"> • Insure long term maintenance of implemented BMP's 	<p>Develop a long-term maintenance program</p> <p>Develop and implement long-term maintenance agreements where necessary</p> <p>Develop ordinance</p> <p>Adopt ordinance and enforcement of violations to be based on a tiered system</p>	<p>December 2005</p> <p>Review annually</p> <p>January 2006</p> <p>April 2006</p>
Develop material to educate the construction and development community about post construction storm water management	<p>Develop fliers</p> <p>Implement a training program and conduct one class per year</p>	<p>July 2006</p> <p>October 2006</p>

MEASURE #6: POLLUTION PREVENTION/GOOD HOUSEKEEPING for MUNICIPAL OPERATIONS

OBJECTIVE:

The primary objective of this measure is to control storm water pollution resulting from the operation and maintenance of City/County-owned facilities to the MEP. A secondary objective is to set an example for model pollution prevention to the public.

STRATEGY:

Evaluate operations of City/County-owned facilities within the NPDES Permit area (urbanized areas) and implement a plan to reduce pollutants to the MEP. Facilities include buildings, corporation yards, transportation facilities (e.g., roads, roadsides, parking lots and fleet service areas, drainage collection and storage systems (e.g., pipes, channels and flood control basins)). Activities associated with operating City/County-owned facilities include: materials storage and handling; vehicle and equipment washing and maintenance; roadway maintenance; vegetation management; pipe, channel and basin cleaning; and construction. These activities need to be properly managed in order to reduce the potential for pollutants to be discharged to the storm drainage system and/or local receiving waters. For example:

- Outdoor materials storage and handling at City/County facilities has the potential to contribute pollutants to site runoff. The staff responsible to design, build and operate these public facilities must be knowledgeable of available BMPs and implement them where applicable.
- Vehicle and equipment parking, washing and maintenance can contribute oils, grease, solvents, petroleum hydrocarbons and detergents to the storm drain system. These activities should be conducted in areas that are not exposed to storm water and do not drain directly to the storm drain system.
- The construction and retrofit of City/County facilities can contribute sediments and pollutants to local receiving waters unless erosion, sediment and other pollution controls are installed, inspected and maintained through all phases of the construction project.
- The cleaning of City/County-owned buildings, parking lots, streets, pipes, channels and basins can also be a potential source of downstream pollution unless measures are taken to protect storm drain inlets. These activities should use little or no water for surface cleaning, and use little or no chemicals for removing vegetation.

GOALS & TIMELINE:

MCM 6: POLLUTION PREVENTION/GOOD HOUSEKEEPING for MUNICIPAL OPERATIONS		
BMP	MEASURABLE GOAL	IMPLEMENTATION SCHEDULE
Develop/gather materials to educate employees and evaluate City/County facilities within the first year of implementing the SWMP	Establish material base to present to employees	January 2005
Educate and provide technical assistance to employees responsible for maintenance and operation of affected facilities <ul style="list-style-type: none"> • Basic Storm water management training • Training on municipal procedures and BMP's 	General employee training More General employee training Specific training	50% trained by January 2005 100% trained by January 2006 January 2007
Develop a pollution prevention plan and maintenance schedule for municipal operations using BMPs	Develop Pollution Prevention Plan	June 2005
Implement the Pollution Prevention Plan utilizing municipal BMP's such as: <ul style="list-style-type: none"> • Storm sewer inlet and manhole maintenance • Storm sewer catch basin maintenance • Storm sewer pipeline maintenance • Pump station maintenance • Detention basin maintenance 	Implement the Pollution Prevention Plan	January 2005

Create and implement a municipal street sweeping program.	Develop plan for street sweeping	January 2006
	Establish procedures for proper removal of waste collected through street sweeping.	January 2006
	Implement street sweeping in urban areas within CSA assessment areas.	July 2006
Establish an inspection schedule for storm drain inlets located on outfall lines.	Develop plan for inspection	January 2006
	Implement inspection plan	July 2006
Develop employee feedback system so to identify problems and solutions to municipal storm water problems	Develop system for feedback	January 2006
Evaluate and improve the municipal operations as needed after the pollution prevention plan implementation to ensure conformance to the MEP	Evaluate municipal operations	Annually (starting January 2006)

ACRONYMS:

BMPs Best Management Practices

CFR Code of Federal Regulations

CWA Clean Water Act

EPA Environmental Protection Agency

Measures Minimum Control Measures

MEP Maximum Extent Practicable

MS4s Municipal Separate Storm Sewer Systems

NPDES National Pollutant Discharge Elimination System

OES Office of Emergency Services

RWQCB Regional Water Quality Control Board

SWMP Storm-water Management Plan

SWPPP Storm-water Pollution Prevention Plan

SWQPEC Storm Water Quality Public Education Committee

SWRCB State Water Resource Control Board

WDRS Waste Discharge Requirements for Storm-water

COMMONLY USED TERMS:

Bacteria: Single-celled micro-organisms that lack chlorophyll; some cause disease, others are necessary to sustain life.

Baseflow: Portion of stream flow that is not due to storm runoff and is supported by groundwater seepage into a channel.

Basin Plan: A water Quality control plan developed by an RWQCB for a specific geographic area. The Basin Plan identifies beneficial uses of waters, the water quality objectives needed to maintain these beneficial uses, and an implementation plan. A copy of the Basin Plan for a specific region can be acquired from the appropriate Regional Water Quality Control Board or can be reviewed online at <http://www.swrcb.ca.gov/plnspols/index.html>.

Best Management Practices (BMPs): Includes schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements; operating procedures; and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Biochemical oxygen demand (BOD): Quantity of dissolved oxygen used by microorganisms (e.g., bacteria) during the biochemical oxidation of matter (both organic and oxidizable inorganic matter) over a specified period of time.

Bio-filtration: Use of natural materials and vegetation to trap and remove pollutants from storm-water. Grass swales and constructed marshes can both be used for bio-filtration.

Catch basin: Box-like underground concrete structure with openings in curbs and gutters designed to collect runoff from streets and pavements. Promotes settling out of solids and sediment in a “trap” or “box” located below the invert elevation of the outlet pipe.

Channel: Natural or artificial waterway that periodically or continuously contains moving water. Channels have a definite bed and banks that confine the water.

Channel erosion: Widening, deepening, and head-ward cutting of small channels and waterways due to erosion caused by moderate to larger floods.

Check dam: Small dam placed perpendicular to a stream to enhance aquatic habitat or placed perpendicular in grass swales to reduce water velocities, promote sediment deposition, and enhance infiltration.

Chemical oxygen demand (COD): Quantity of maximum oxidizable matter in a sample.

Clean Water Act (CWA): (33 U.S.C. 1251 et seq.) Requirements of the National Pollutant Discharge Elimination System (NPDES) program are defined under Sections 307, 402, 318, and 405 of the CWA.

Construction General Permit: NPDES permit issued by the State Water Resources Control Board for the discharge of storm-water associated with construction activity from soil disturbance of five or more acres.

Contamination: An impairment of the quality of waters of the state by waste to a degree that creates a hazard to the public health through poisoning or through the spread of disease, including any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected.

Culvert: Covered channel or a large diameter pipe that crosses under a road, sidewalk, etc.

Debris: Any material, organic or inorganic, floating or submerged, moved by a flowing stream.

Design storm: Rainfall event of specified size and return frequency (i.e., a storm that occurs only once every two years) that is used to calculate the runoff volume and peak discharge rate to a storm-water quality treatment facility.

Detention basin: Constructed basin that temporarily stores storm-water runoff and releases it at controlled rates.

Detention time: Time required for detention of storm-water runoff in a storm-water quality facility.

Discharge: Release or flow of storm-water or other substance from a conveyance system or storage container.

Dissolved oxygen: Oxygen that is present (dissolved) in water and available for use by fish and other aquatic animals. If the amount of dissolved oxygen in the water is too low, aquatic animals will suffocate.

Diversion: Channel, embankment or other man-made structure constructed to divert water from one area to another (Soil Conservation Society of America, 1982).

Draw-down: Gradual reduction in water level in a detention basin due to combined effect of infiltration and evaporation.

Drop inlet: Entrance to the piped storm drain system, located at the curb and gutter, designed to collect runoff from streets and pavements. Does not include a sediment trap like a catch basin.

Dry weather flow: Flow occurring during the dry season (generally considered to be May through September) that may be associated with reservoir releases or releases of water from industrial or residential activities.

End-of-pipe control: Water quality control technologies suited for control of existing urban storm-water at the point of storm sewer discharge to a waterway.

Energy dissipation: Loss of kinetic energy of moving water due to internal turbulence, boundary friction, change in flow direction, contraction, or expansion.

Environmental Protection Agency (EPA): The federal agency with primary responsibility for implementation of federal environmental statutes, including the SWA, Clean Air Act, Safe Drinking Water Act and Resource Conservation and Recovery Act. California is included within EPA Region IX, headquartered in San Francisco.

Erosion: Wearing away of land surface by wind or water. Occurs naturally from weather or runoff, but can be intensified by land-clearing practices relating to farming, residential or industrial development, road building, or timber cutting.

Floodplain: Any low land that borders a stream and is inundated periodically by its waters.

Freeboard: Vertical distance between design water surface elevation and elevation of the bank, levee or revetment that contains the water.

Good Housekeeping: A common practice related to the storage, use or cleanup of materials performed in a manner that minimizes the discharge of pollutants

Grading: Cutting and/or filling of land surface to a desired slope or elevation.

Grassed swale: (*See* vegetated swale)

Gravitational settling: Tendency of particulate matter to “drop out” of storm-water runoff as it flows downstream when runoff velocities are moderate and/or slopes are not too steep.

Groundwater table: Level below which the soil is saturated (i.e., where pore spaces between individual soil particles are filled with water). Above the groundwater table and below the ground surface, soil water does not fill all pore spaces.

Habitat: Place where a biological organism lives. The organic and non-organic surroundings that provide life requirements such as food and shelter.

Hazardous material or substance:

1. Any material that poses a threat to human health and/or the environment. Typical hazardous substances are toxic, corrosive, ignitable, explosive, or chemically reactive.
2. Any substance named by EPA to be reported if a designated quantity of the substance is spilled in the waters of the United States or otherwise emitted into the environment.

Hazardous waste: By-products of society that can pose a substantial or potential hazard to human health or the environment when improperly managed. Possesses at least one of four characteristics (flammable, corrosive, reactive, or toxic) or appears on special EPA lists.

Heavy metals: Metals or relatively high atomic weight, including but not limited to chromium, copper, lead, mercury, nickel, and zinc. These metals are found in minimal quantities in storm-water, but can be highly toxic even at trace levels.

Illegal discharges: Any discharge to a municipal separate storm sewer that is not composed entirely of storm-water except discharges authorized by an NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from firefighting activities.

Impermeable: Properties that prevent the movement of water through the material.

Industrial General Permit: NPDES permit issued by the State Water Resources Control Board for the discharge of storm-water associated with industrial activity.

Infiltration: Penetration of water through the ground surface into subsurface soil or penetration of water from the soil into sewer or other pipes through defective joints, connections or manhole walls. Infiltration rates will

be slower when the soil is dense (e.g., clays) and faster when the soil is loosely compacted (e.g., sands). Can also refer to seepage of groundwater into sewer pipes through cracks and joints.

Infiltration basin: Impoundment where incoming storm-water runoff is stored until it gradually infiltrates through the soil of the basin floor.

Inlet: Entrance into a ditch, storm drain system, storm-water treatment facility, or other waterway.

Level spreader: Device used to spread out storm-water runoff uniformly over the ground surface as sheet flow (i.e., not through channels). The purpose of level spreaders is to prevent concentrative, erosive flows from occurring and to enhance infiltration.

Minimum Control Measures: Minimum Control Measures required by the United States Environmental Protection Agency, and the State Water Resource Control Board include: Public Education, Public Participation, Illicit Discharge Detection and Elimination, Construction Site Storm Water Runoff Control, Post Construction Storm Water Management, Pollution Prevention/Good Housekeeping for Municipal Operations.

Municipal Separate Storm Sewer Systems (Small MS4s): Storm drain systems regulated by the federal Phase I and Phase II storm water regulations. Municipal combined sewer systems are regulated separately. MS4s are defined in the federal regulations at 40 CFR 122.26(b)(8).

National Pollutant Discharge Elimination System (NPDES): As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States.

Natural buffer: Low sloping area of maintained grassy or woody vegetation located between a pollutant source and a water-body. A natural buffer is formed when a designated portion of a developed piece of land is left unaltered from its natural state during development. Natural vegetative buffers differ from vegetated filter strips in that they are “natural” and need not be used solely for water quality purposes. To be effective for storm-water treatment, such areas must be protected against concentrated flow.

Non-storm water discharge: Any discharge to municipal separate storm sewer that is not composed entirely of storm-water, including those containing process wastewater, non-contact cooling water, or sanitary wastewater.

Non-structural source control measure: Low-technology, low-cost activity, procedure or management practice designed to prevent pollutants associated with site functions and activities from being discharged with storm-water runoff. Examples include good housekeeping practices, employee training, standard operating practices, inventory control measures, etc.

Notice of Intent (NOI): Formal notice to State Water Resources Control Board submitted by the owner/developer that a construction project is about to begin. The NOI provides information on the owner, location and type of project, while certifying that the permit tee will comply with the conditions of the construction general permit.

NPDES Permit: Authorization, license or equivalent control document issued by EPA or an approved state agency to implement requirements of the NPDES program. An NPDES storm-water permit relates to discharge of storm-water runoff to waters of the United States.

Nutrients: Elements or substances such as nitrogen or phosphorous that are necessary for the growth and development of living things (e.g., plants). Large amounts of these substances reaching water bodies can lead to reduced water quality and eutrophication by promoting excessive aquatic algae growth. Some nutrients can be toxic at high concentrations.

Off-line facility: Storm-water quality treatment facility designed to treat a portion of storm-water that has been diverted from a stream or storm drain.

Outfall: Point where storm-water discharges from a pipe, channel, ditch, or other conveyance to a waterway.

Permeability: Quality of a soil horizon that enables water or air to move through it.

Pollutant: Substance introduced into the environment that adversely affects the usefulness of a resource.

Pollution: Impairment of water quality caused by man-made waste discharges or natural processes.

Precipitation: Any form of rain or snow.

Pretreatment: Treatment of wastewater before it is discharged to a wastewater collection system.

Process wastewater: Wastewater that has been used in one or more industrial processes.

Regional Water Quality Control Board (RWQCB): “Regional Board” means any California regional water quality control board for a region as specified in Section 13200 of the California Water Code.

Retention: Temporary or permanent storage of storm-water to prevent it from leaving the development site.

Retrofit: Creation/modification of storm-water management systems in developed areas through construction of water quality basins, stream plantings, stream bank stabilization, and other techniques for improving water quality and creating aquatic habitat. A retrofit can mean construction of a new storm-water quality treatment facility in the developed area, enhancement of an older storm-water management structure, or a combination of improvement and new construction.

Riparian: Relatively narrow strip of land that borders a stream or river, which often coincides with the maximum water surface elevation of the one-hundred year storm.

Riprap: Combination of large stones, cobbles, and boulders used to line channels, stabilize banks, reduce runoff velocities, or filter out sediment.

Runoff: (*See* storm-water runoff)

Run-on: Storm-water or other surface flow which enters property other than that where it originated.

Scour: Concentrated erosive action of flowing water in streams that removes material from the bed and banks.

Sedimentation: Process of sand and mud settling and building up on the bottom of a creek, river, lake, or wetland.

Sediments: Soil, sand and minerals washed from land into water, usually after rain, that accumulate in reservoirs, rivers and harbors, destroying aquatic animal habitat and clouding the water so that adequate sunlight might not reach aquatic plants.

Sheet flow: Water, usually storm runoff, flowing in a thin layer over the ground surface (Soil Conservation Society of America, 1982).

Slope: Degree of deviation of a surface from the horizontal, measured as a percentage, a numerical ratio, or in degrees (Soil Conservation Society of America, 1982).

Source control BMPs: Operational practices that prevent pollution by reducing potential pollutants at the source.

Storm drains: Above and below ground structures for transporting storm-water to streams or outfalls for flood control purposes.

Storm-water: Storm-water runoff, snow melt runoff, surface runoff, and drainage. The regulatory definition excludes infiltration.

Storm-water conveyance system or storm drain system: Any channel or pipe for collecting and directing storm-water.

Storm-water discharge associated with industrial activity: Discharge from any conveyance that is used for collecting and conveying storm-water which is directly related to manufacturing processing or raw materials storage areas at an industrial plant [40 CFR 122.26(b)(14)].

Storm-water Management Plan (SWMP): A plan to fulfill requirements of the National Pollutant Discharge Elimination System (NPDES) Phase II requirements for small municipal separate storm sewer systems (Small MS4s) for the affected agencies within the County to follow what describes the Best Management Practices (BMPs), measurable goals, and timetables for the implementation of the six minimum control measures required by the United States Environmental Protection Agency, and the State Water Resource Control Board under NPDES.

Storm-water runoff: Excess precipitation that is not retained by vegetation, surface depressions or infiltration, which thereby collects on the surface and drains into a surface water body.

Storm-water treatment: Detention, retention, filtering, or infiltration of a given volume of storm-water to remove urban pollutants and reduce frequent flooding.

Stream buffer: Variable width strip of vegetated land adjacent to a stream that is preserved from development activity to protect water quality, aquatic, and terrestrial habitats.

Sump: Sediment trap used as pretreatment upstream of a filtration or infiltration device. Sump can have many configurations. The word “sump” has also been used in reference to drywells.

Swale: Natural depression or wide shallow ditch used to temporarily store, route or filter runoff. (See also vegetated swale)

Topography: Relative positions and elevations of the natural or man-made features of an area that describe its surface configuration (Soil Conservation Society of America, 1982).

Toxic: Related to or caused by a poison, hazardous waste or toxin.

Treatment control BMPs: Treatment methods to remove pollutants from storm-water.

Urban runoff: Storm-water that passes through and out of developed areas to a stream or other body of water.

Vegetated filter strip: Vegetated section of land designed to accept runoff as overload sheet flow from upstream development. It may adopt any natural vegetated form, from grass meadow to small forest. The dense vegetative cover facilitates pollutant removal. Filter strips cannot treat high velocity flows; therefore, they have generally been recommended for use in agriculture and low- density development. A vegetated filter strip differs from a natural buffer in that the strip is not “natural;” rather, it is designed and constructed specifically for pollutant removal. A natural buffer can serve as a filter strip with improvements such the installation of a level spreader to spread flows uniformly across the surface. A filter strip has a fairly level surface, while a grassed swale is a concave vegetated conveyance system.

Vegetated swale: An earthen conveyance system in which the filtering action of grass and soil infiltration are utilized to remove pollutants from urban storm-water. An enhanced grass swale, or bio-filter, utilizes check dams and wide depressions to increase runoff storage and promote greater settling of pollutants.

Velocity: Distance that water travels in a given direction in a stream during an interval of time.

Watershed or drainage basin: Geographic area within which all surface water drains into a particular body of water (e.g., a river or stream).

Weir: Structure that extends across the width of a channel and is intended to impound, delay or in some way alter the flow of water through the channel. Dams of any kind, including check dams, are considered weirs.

Wet weather flow: Water derived primarily from rain, melting snow or irrigation during the wet season (generally considered to be October through April) that flows over the ground surface.

Yuba City, CA Urbanized Area Storm Water Entities as Defined by the 2000 Census

2000 Census Urbanized Areas

Yuba City, CA

Municipal Boundaries

County Boundaries

Major Waterbodies

SOURCE:
US Census Bureau TIGER data, 2000 Census

PROJECTION:
State Plane Coordinate System - 8
NAD83 datum - NAD83

MAP DESIGN:
August 14, 2002

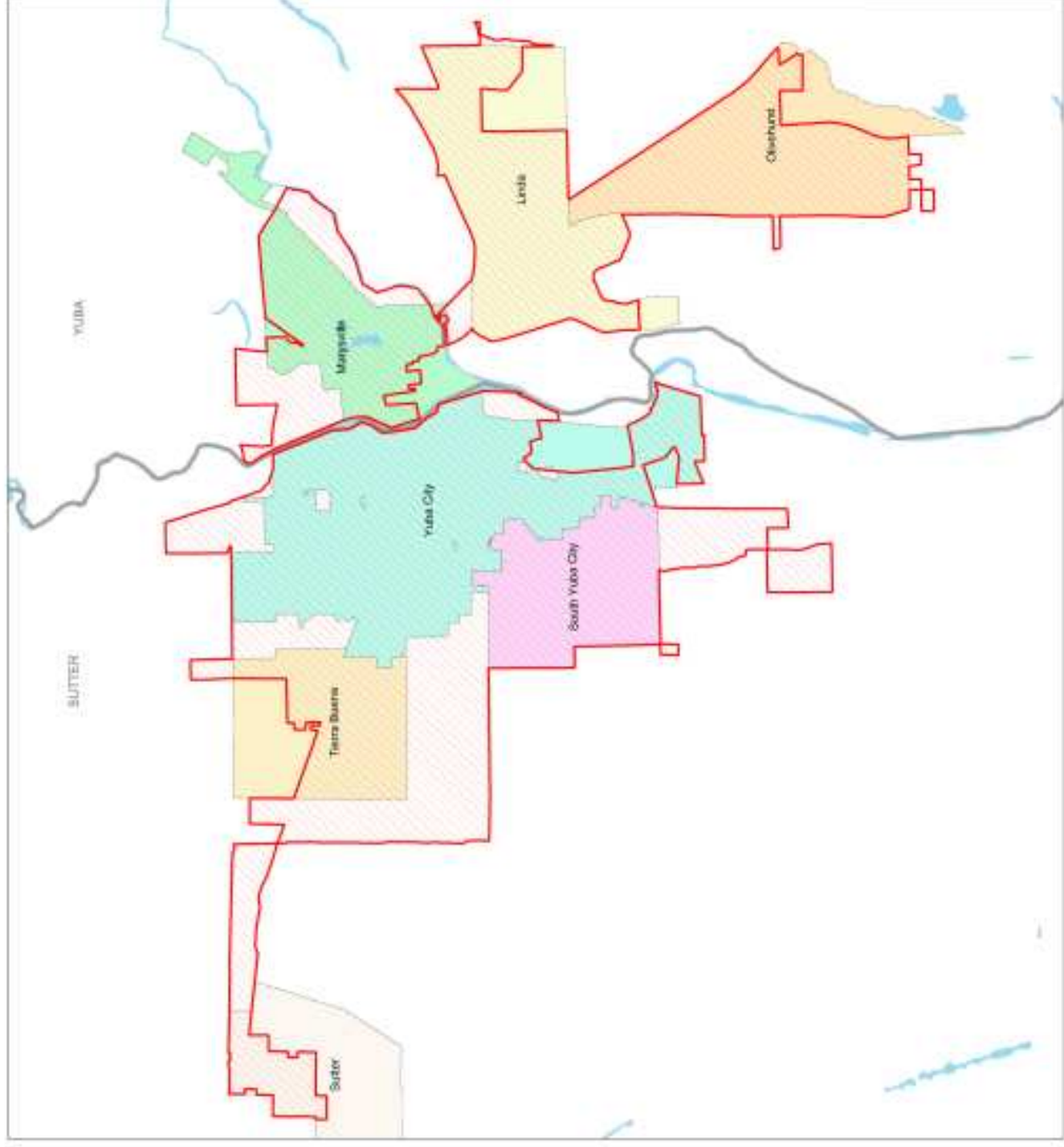


EXHIBIT 'B'